

the ground nearly every year as far south as the Carolinas. Then, too, there must be taken into consideration the length of day, the atmospheric pressure which affects the amount of oxygen and carbon dioxid in the air, and the effect which high mountain atmosphere has upon the actinic rays of the sun. In other words, it should never be forgotten that these plants are essentially cosmic machines run by the sun's energy and that in no two places on the globe do identical atmospheric conditions prevail.

Twenty-five years of experience has taught those of us who have been establishing new plants in America to be very cautious in predicting where plants will thrive, for no one can foresee except in a general way the degree of accommodation which any new plant will exhibit. The only way to find out is to test it, and Mr. Rock has sent in large quantities of seeds for trial.

Exploring alone in any country has its shady side, but in Yunnan, where the explorer may at any time meet bands of roving bandits and be subjected to the barbarities which only savages know how to inflict, Mr. Rock has had to meet conditions which have been almost unbearable.

This fact should be borne in mind by those to whom in the years to come these plants are sent for trial, and their value should be measured in terms of the dangers and hardships which they have occasioned. That Mr. Rock has been able to hold out and keep moving to America a stream of seeds and cuttings is the wonder of his friends.

One of the reasons for Mr. Rock's expedition to Yunnan was to discover what species of chestnuts grow there and secure their seeds. In this quest he has been successful.

On the summit of the Salwin Ridge, southwestern Yunnan, Mr. Rock found dense forests of a large species of chestnut (*Castanea* sp.; No. 56080) which grows to be 100 feet tall and 5 feet in diameter and bears sweet edible nuts the size of chinquapins. It is an excellent timber tree, ratoons freely from the stump, and no evidence of any disease was found upon it. Four days' journey west of Talifu he found a small forest species, only 60 feet tall (*Castanea* sp.; No. 56119), also with small nuts; and a tall species near Tali Lake which bore deliciously sweet nuts (*Castanea* sp.; No. 55984). Whether out of these species or others which he has collected will come one which will solve the chestnut problem is a question which will require years to answer. At any rate the first step—that of getting together the Asiatic chestnuts—has been taken.

From the discovery by Mr. Rock of numerous distinct species of wild apples growing in the mountains far removed from civilization, it would appear that western Yunnan is the region from which to get southern forms of this fruit with which to build up by hybridization an apple for our Southern States which now lie below the apple belt. This collection includes fruits varying from the size of cherries to those of large-sized crab apples. Some are trees 40 feet high, growing in hot, dry, rocky locations where little else besides the Yunnan pine grows, and others have long drooping branches. None of these has as yet been determined botanically.

Wild as well as cultivated peaches also occur in western Yunnan, and Mr. Rock reports there a clingstone white-fleshed peach